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Preface. Meaning in life emerges from human emotion. The key to happiness is seeing and experiencing positive emotion in oneself and others. This emotional structure is built into us by evolution. The kind, not the brutal, survive. One is good by acting to complete the good of others. Meaning can be measured by the "jen" ratio: the abundance of positive emotions, divided by the sum of negative emotions. One should strive for jen ratios above one.

Chapter 1: *Jen* Science. A core concept in Confucius's *Analects* is "jen." "Jen" is variously translated, but represents the generosity, humaneness, and dignity between people. One achieves meaningful life by cultivating jen. America's jen ratio is falling. Humankind is not a collective of self-serving economic animals driven to compete by choosing bad over good means. Money provides little motivation to the middle class (though more to the under class). Another understanding of mankind exists, the jen concept. High jen ratios make us happy.

Chapter 2: Darwin's Joys. Darwin described at length the physical manifestations of emotion in humans. Three principles guided Darwin's thought about expressive behavior: 1) expressive behaviors are remnants of full-blown actions that enhanced survivability in evolutionary history, 2) opposing expressive states are associated with opposing expressions (antithesis), and 3) undirected expressive energy is released in random behaviors. Paul Ekman's New Guinea research proved that much emotional facial expression is universal, transcending any particular culture. Ekman and Friesen developed the Facial Action Coding System (FACS) by which all facial muscle movement can be systematized. Emotion: a) expresses our deepest commitments, b) is hard-wired into our nervous system, and c) guides our moral judgments.

Chapter 3: Rational Irrationality. Emotions are involuntary commitment markers. Commitment may be feigned, but emotion betrays false promises. Commitment demands willingness to set aside short-term, self-interested behavior. Emotions identify who has that willingness. William James proposed that emotions reflect visceral responses. Emotions follow the gut. Moral judgments arise from emotional intuitions, which are sometimes modified by subsequent deliberation. Virtue and our sense for right and wrong are hard-wired into our brains. Rationality modifies emotion, and reason is bounded by feeling in meaningful life. Emotions point toward moral action, and deserve equal footing with rational review.

Chapter 4: Survival of the Kindest. Darwin believed that social instincts are part of humanity's evolutionary heritage. What were characteristics of the environment in which humanity evolved (which Keltner calls the "environment of evolutionary adaptedness" or EEA)? Early humans lived closely with thirty to seventy-five troop members. Females gathered and cared for children. Males hunted and made tools. Unlike other higher primates, human collectives provided care to one another. They raised offspring collaboratively. Humans operated face-to-face, in deep coordination. Facial expression and vocal sounds were critical to group cooperation. Culture resulted, with artificial memory transmission across time and space. Human troops were hierarchical (but relatively flat), and higher status individuals kept peace for others, from which derived their power. Conflict pervaded troop life, from sibling to members to outsiders to natural threats. An extensive repertoire of reconciliation behaviors evolved to keep the cooperative ship afloat. Relatively chaste sexual patterns (as compared to other higher primates) promoted peace. Strategically, cooperation is a winning strategy. Emotions that promote cooperation promote the interests of others, which could be evolutionary suicide. Emotion removes this threat. Human emotions create a cost-benefit reversal by providing reliable means of identifying pretenders. Also, humans reciprocate cooperation when cooperation is exhibited. This means that meaningful life is contagious.

Chapter 5: Embarrassment. Brain trauma patients demonstrate that jen emotions are elements of brain structure. Eadweard Muybridge, J.S. and Phineas Gage are core examples. Embarrassment, evidencing respect for others and their opinions as well as submission to the moral order, is a window into our ethical dispositions. Keltner recounts his studies with Ekman in FACS: startle response, then embarrassment. Evolutionarily hard-wired emotional displays typically last two-three seconds, and exhibit stereotypical patterns of condensed behavioral clues. Embarrassment defuses conflict situations: gaze aversion, an appeasement smile, a face touch. Damage to the orbitofrontal cortex (near the eyes) creates sociopathy by erasing the capacity for embarrassment. Embarrassment undergirds modesty.

Chapter 6: Smile. Smiling promotes cooperation, perhaps more powerfully than any other gesture. Smiling reduces stress in giver and receiver. Contra Darwin, smiling does not derive from laughing. A smile is deferential submission in possible conflict situations. Laughter accompanies play. They have different evolutionary origins. Typology of smiles: Duchenne smile (orbicularis oculi active, evidencing high spirits and good will), non-Duchenne smile (obicularis oculi inactive, evidencing masked negative emotion). The D-smile is the dessert of social life. The Mills Longtinudinal Study (110 Mills College grads from 1959-1960 followed for fifty years at ages 27, 42, and 52) shows that D-smiles in college graduation photos correlate to high jen ratios and successful lives. Judeo-Christian view of human sinfulness support a view that smiling evidences relief from anxiety, threat, anger. In primates with social structures similar to humans (some macaques), smiling expresses friendliness or affection. Human comprehensive sociality required a universal signal of cooperative intent: the smile.

Chapter 7: Laughter. Laughter is social and contagious. It induces relaxation (limpness) during exhalation. Voiced laughter exhibits pleasure; unvoiced laughter does not. Antiphonal laughter (laughing in the same space) expresses/creates affection. Laughter differs from language in its sound output, a third register of voice: vowel, consonant, laughter. Laughter evolutionarily predates language, arising from the pons, a limbic/brain stem structure. Less than twenty percent of laughter is preceded by humorous events or language. Laughter expresses cooperation by inducing contagion and signaling shared success. Laughter stimulates the supplementary motor area (SMA), which links to the amygdala and insula, regions deep in the limbic system. Together, these have been called mirror neurons. Mirror neurons activate brain regions that imitate the laugher's laugh. Laughter induces cooperation. Laughter accompanies imagination, in which people take a little vacation from reality's rules. Keltner studied forty-five individuals whose spouses had died six months ago. Freudian analysis predicts that adjustment occurs as individuals express their negative emotions, and expressing positive emotions is denial. Keltner's study showed that laughter reduced grief, even when adjusted for basal individual temperament and the nature of the spouse's death. And those who laughed when speaking of their deceased spouse related better to others and created new intimacies sooner. Keltner recounts the story of Siddartha Gautama and the Buddhist view of suffering appreciatively.

Chapter 8: Tease. A tease provokes another, but contains markers that reconfirm the teaser's social commitments. Off-record markers are the non-verbal acts associated with the tease that signal its non-hostility and playful intent. Sincere communication, which the speaker hopes will be interpreted literally, should be truthful, informative, relevant, and direct. We violate these rules to express politeness or to soften potential conflict situations. Teasing uses exaggeration, repetition, exposure of idiomatic expression and winking to reduce the social stress of negotiation rank and power distribution. The more a high rank teaser receives submission gestures, the more the teaser likes the teasee. The more laughter they share, the more they like one another. Teasing preserves intimate bonds, when done artfully. Artful teasing hurts little physically, uses non-verbal markers to communicate fun, permits the teasee to respond in kind, and is more likely to occur with persons over age ten. Sufferers of Aspberger's Syndrome lack the ability to tease.

Chapter 9: Touch. The hypothesis that goodness is contagious proposes that self-interest is subsumed in groups when individuals effectively signal their intent to cooperate. Touch is central

to such goodness transmission; touch is the first communication in affection, sympathy, and gratitude. These emotions underpin cooperation and interpersonal trust. Human skin and hands developed evolutionarily to cool us and produce tools, but they were concurrently used to communicate. Touching creates a surge of pleasure reward for both toucher and touchee. Touched babies thrive, while untouched ones do not. Most people identify love, sympathy, and gratitude poorly from verbal sounds and facial expressions. They identify these emotions much more readily from touching, even apart from sound and faces. There are gender differences: men communicate sympathy poorly to women by touch; women communicate anger to men not at all by touch. Our society is touch deficient, hobbled by Puritan moralities and sexual harassment fears. Our need for touch takes refuge in massages, pedicures, cuddle clubs, sports, medical visits.

Chapter 10: Love. Sexually, humans tend to serial monogamy, with the males actively involved in child-rearing (unlike ninety percent of mammals). Four loves describe human loving: 1) parent-child, 2) sexual desire, 3) pair-bonding, and 4) love for non-kin (friends and fellows). The thirty-five documented cases of feral children show that lack in **parental relations** impairs language, morals, manners, cooperation, sexual interest, and self-awareness. Early attachments create the capacity for interpersonal connections. Impaired attachments create pessimistic, depression-prone, suspicious, insecure persons. Human monogamous **pair bonding** differs from gorillas (alpha harems), chimpanzees (indiscriminate mating during estrus), and bonobos (multi-purpose sexual encounters). Attention-getting behaviors lead to more intimacy, with keeping-time synchronicity and then pair-bonding frenzy. This last turns off the sense of self, clearing the way for a new pair-bonded identity. The risks are high. Evolution's answer to the risk is romantic love, which derives from increased oxytocin production. Oxytocin shuts down threat detection and creates partner idealization. For pair bonding affection to persevere, the ratio of positive feelings to negative feelings must be five to one, per Gottman. **Sexual desire** is not pair bonding. Pair bonding and sexual desire displays differ. Pair bonding display lead to talk of commitment. Sexual desire displays lead to copulation. Women have on average seven times the oxytocin blood levels compared to men. **Non-kin love**, also enhanced by oxytocin levels, increases conviction of the goodness of others and urges to trust and sacrifice. The signals of community affection are: feelings of devotion and sacrifice, perception of the goodness and beauty of others, warm touching, oxytocin increasing brain reward circuitry, shutting down threat circuitry, mutual smiles and head tilts, open hands, soft, affectionate vocal tones.

Chapter 11: Compassion. History reveals human capacities for both cruelty and caring. Human nature contains tendencies to self-interest and pressures to care. Evolutionarily, sympathetic communities increase the likelihood their children will mature and reproduce. Historically, compassion has been dismissed as a religious imposition. They are wrong. Compassion is biological, emerging from ancient portions of the brain, and adapted to care for vulnerable persons. The vagus nerve bundle may be the biological root of compassion. It originates at the hindbrain and winds through the body involving brain, larynx, heart, lungs, stomach, and other organs. The vagus nerve causes a systematic brief sigh at other's plights, slows the heart rate, (may) release oxytocin, and is unique to mammals. Some scientists dissent on the role of the vagus nerve and the autonomic system's involvement in emotion. Keltner's own research indicates that humans respond to harm to others from infancy. Humans innately care about the needs of others. Some researchers attribute altruism to selfish behaviors or kin-selection behavior. Keltner cites studies that he believes show that compassion is not a blind emotional surge, but is directed toward individuals suffering harm. Shy people have elevated stress response that can be observed as early as four months old. It takes shy individuals two extra years to marry and longer to settle into stable careers. Heightened vagus nerve tone correlates to extroversion, mood elevation, and physical health. It also correlates to life-changing spirituality. Depressed individuals suffer low resting vagal tone. Evolutionarily, *big-brained progeny* necessitated two parent care and the involvement of kin and tribal caregivers as well. The nurturance period is more than a decade for human children. Selection pressures affected the appearance of babies to elicit caregiving responses from adults around them. *Sexual selection pressures* created a kinder population, because the most important criterion in mate selection is kindness. *Social selection pressures* favored kind individuals, because groups with larger numbers of kind persons cohere

better and better support members. We need to identify and augment compassion-developing environments.

Chapter 12: Awe. The experience of awe has been, in modern times, extracted from its solely religious context to experience generally. Features of awe: 1) vastness, 2) accommodation, flavored by a) threat, b) beauty, c) ability, d) virtue, and/or e) the supernatural. Paul Woodruff analyzed Greek and Chinese conceptions of awe. Awe leads to modesty which incites a sense of commonality with other humans, which induces respect and reverence. Evolutionarily, David Sloan Wilson argues that awe serves to subjugate the sense of self in the communal identity. Awe is difficult to study because it is intermittent and depends upon experiences unlikely to happen in a laboratory. People experiencing awe report goose-bumps and feelings of social connection. There are several different brain structures that relate to various aspects of feeling good.

Keltner concludes that human are built to do good.